# **Safety Monitoring Relays SR201A**

## **Single-Channel Safety Monitoring Relay**

- Power requirements—the SR201A will accept 24 VAC/DC or 110 VAC
- Inputs—a single N/C input channel, not monitored, is provided
- Outputs—the SR201A has 3 N/O outputs to route power to the coils of power contactors plus 1 N/C auxiliary solid state output for signaling purposes
- External Device Monitoring (EDM) is provided with a N/C loop between Y1 and Y2 on the SR201A
- Selectable reset modes—automatic/manual reset mode is selectable on the SR201A
- The SR201A has removable terminals











Conforms to EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, EN ISO 13850 UL and C-UL listed CSA and TÜV Rheinland approved

### **Specifications**

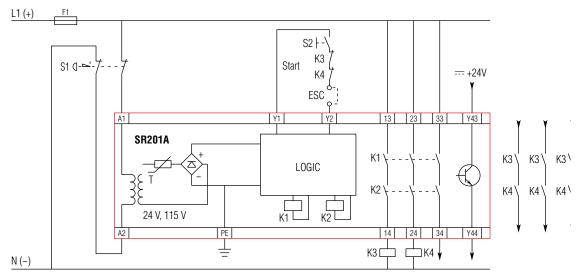
Impulse Withstand Voltage:  Max Drop-Out Time:  100 ms  Max Output Fuse:  Reset Mode:  Automatic/manual  External Device Monitoring (EDM):  Mechanical  Mounting:  Case Material:  Polyamide PA6.6  Max Wire Size:  0.2 to 1.5 mm² (24 to 16 AWG)  Weight:  Color:  External Switches:  Indication:  Mone  Indication:  Mechanical Life:  Environmental  Enclosure Protection:  Operating Temperature:  Final Sundards:  Environal Sundards:	Electrical	All Models	SR201A01	SR201A02			
Internal Fuse: n/a Safety Inputs: 1 N/C single channel (not monitored) Relay Outputs: 3 N/O + 1 N/C auxiliary solid state  Max Switched AC: Inductive AC-15, 1800 VA inrush, 180 VA maintained  Max Switched DC: Inductive DC-13, 2 A/24 V Min Switched Current/Voltage: 10 mA/17 V (provided that the contact has never been used with higher load impulse Withstand Voltage: 3000 V  Max Drop-Out Time: 100 ms  Max Output Fuse: 4 A slow-acting fuse or 6 A quick-acting fuse Reset Mode: Automatic/manual  External Device Monitoring (EDM):  Wechanical  Mounting: 35 mm (1.38 in.) DIN rail  Case Material: Polyamide PA6.6  Max Wire Size: 0.2 to 1.5 mm² (24 to 16 AWG)  Weight: 160 g (5.6 oz.) 210 g (7.4 oz.)  Color: Red  External Switches: None  Indication: Green = Power on, Green = K1 + K2 closed  Mechanical Life: 1 x 10 ° operations  Environmental  Enclosure Protection: IP20 terminals, IP40 (NEMA 1) housing  Operating Temperature: -10 to 55°C (14 to 131°F)  Compliance  Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Power Supply:	±10%	24 VAC/DC	110 VAC			
Safety Inputs:  Relay Outputs:  Relay Outputs:  3 N/O + 1 N/C auxiliary solid state  Max Switched AC:  Inductive AC-15, 1800 VA inrush, 180 VA maintained  Max Switched DC:  Inductive DC-13, 2 A/24 V  Min Switched Current/Voltage:  In may 17 V (provided that the contact has never been used with higher load impulse Withstand Voltage:  Max Drop-Out Time:  100 ms  Max Output Fuse:  4 A slow-acting fuse or 6 A quick-acting fuse  Reset Mode:  External Device Monitoring (EDM):  Mechanical  Mounting:  35 mm (1.38 in.) DIN rail  Case Material:  Polyamide PA6.6  Max Wire Size:  0.2 to 1.5 mm² (24 to 16 AWG)  Weight:  Color:  Red  External Switches:  Indication:  Green = Power on, Green = K1 + K2 closed  Mechanical Life:  1 x 10° operations  Environmental  Enclosure Protection:  Operating Temperature:  -10 to 55°C (14 to 131°F)  Compliance  Standards:  EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings:  CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Power Consumption:		<2.5 VA	<7 VA			
Relay Outputs: 3 N/O + 1 N/C auxiliary solid state  Max Switched AC: Inductive AC-15, 1800 VA inrush, 180 VA maintained  Max Switched DC: Inductive DC-13, 2 A/24 V  Min Switched Current/Voltage: 10 mA/17 V (provided that the contact has never been used with higher load Impulse Withstand Voltage: 3000 V  Max Drop-Out Time: 100 ms  Max Output Fuse: 4 A slow-acting fuse or 6 A quick-acting fuse  Reset Mode: Automatic/manual  External Device Monitoring (EDM): N/C loop between Y1 and Y2  (EDM): Mechanical  Mounting: 35 mm (1.38 in.) DIN rail  Case Material: Polyamide PA6.6  Max Wire Size: 0.2 to 1.5 mm² (24 to 16 AWG)  Weight: 160 g (5.6 oz.) 210 g (7.4 oz.)  Color: Red  External Switches: None  Indication: Green = Power on, Green = K1 + K2 closed  Mechanical Life: 1 x 10 ° operations  Environmental  Enclosure Protection: IP20 terminals, IP40 (NEMA 1) housing  Operating Temperature: -10 to 55°C (14 to 131°F)  Compliance  Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Internal Fuse:	n/a					
Max Switched AC:  Inductive AC-15, 1800 VA inrush, 180 VA maintained  Max Switched DC:  Inductive DC-13, 2 A/24 V  Min Switched Current/Voltage:  Impulse Withstand Voltage:  Max Drop-Out Time:  100 ms  Max Output Fuse:  4 A slow-acting fuse or 6 A quick-acting fuse  Reset Mode:  Automatic/manual  External Device Monitoring (EDM):  Mechanical  Mounting:  35 mm (1.38 in.) DIN rail  Case Material:  Polyamide PA6.6  Max Wire Size:  0.2 to 1.5 mm² (24 to 16 AWG)  Weight:  Color:  Red  External Switches:  None  Indication:  Green = Power on, Green = K1 + K2 closed  Mechanical Life:  1 x 10° operations  Environmental  Enclosure Protection:  Operating Temperature:  -10 to 55°C (14 to 131°F)  Compliance  Standards:  EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings:  CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Safety Inputs:	1 N/C single channel (not monitored)					
Max Switched DC: Inductive DC-13, 2 A/24 V  Min Switched Current/Voltage: 10 mA/17 V (provided that the contact has never been used with higher load Impulse Withstand Voltage: 3000 V  Max Drop-Out Time: 100 ms  Max Output Fuse: 4 A slow-acting fuse or 6 A quick-acting fuse  Reset Mode: Automatic/manual  External Device Monitoring (EDM): N/C loop between Y1 and Y2  Mechanical  Mounting: 35 mm (1.38 in.) DIN rail  Case Material: Polyamide PA6.6  Max Wire Size: 0.2 to 1.5 mm² (24 to 16 AWG)  Weight: 160 g (5.6 oz.) 210 g (7.4 oz.)  Color: Red  External Switches: None  Indication: Green = Power on, Green = K1 + K2 closed  Mechanical Life: 1 x 10 6 operations  Environmental  Enclosure Protection: IP20 terminals, IP40 (NEMA 1) housing  Operating Temperature: -10 to 55°C (14 to 131°F)  Compliance  Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Relay Outputs:	3 N/O + 1 N/C auxiliary solid state					
Min Switched Current/Voltage: 10 mA/17 V (provided that the contact has never been used with higher load Impulse Withstand Voltage: 3000 V  Max Drop-Out Time: 100 ms  Max Output Fuse: 4 A slow-acting fuse or 6 A quick-acting fuse  Reset Mode: Automatic/manual  External Device Monitoring (EDM): N/C loop between Y1 and Y2  Mechanical  Mounting: 35 mm (1.38 in.) DIN rail  Case Material: Polyamide PA6.6  Max Wire Size: 0.2 to 1.5 mm² (24 to 16 AWG)  Weight: 160 g (5.6 oz.) 210 g (7.4 oz.)  Color: Red  External Switches: None  Indication: Green = Power on, Green = K1 + K2 closed  Mechanical Life: 1 x 10° operations  Environmental  Enclosure Protection: IP20 terminals, IP40 (NEMA 1) housing  Operating Temperature: -10 to 55°C (14 to 131°F)  Compliance  Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Max Switched AC:	Inductive AC-15, 1800 VA inrush, 180 VA maintained					
Impulse Withstand Voltage: 3000 V  Max Drop-Out Time: 100 ms  Max Output Fuse: 4 A slow-acting fuse or 6 A quick-acting fuse  Reset Mode: Automatic/manual  External Device Monitoring (EDM): N/C loop between Y1 and Y2  Mechanical  Mounting: 35 mm (1.38 in.) DIN rail  Case Material: Polyamide PA6.6  Max Wire Size: 0.2 to 1.5 mm² (24 to 16 AWG)  Weight: 160 g (5.6 oz.) 210 g (7.4 oz.)  Color: Red  External Switches: None  Indication: Green = Power on, Green = K1 + K2 closed  Mechanical Life: 1 x 106 operations  Environmental  Enclosure Protection: IP20 terminals, IP40 (NEMA 1) housing  Operating Temperature: -10 to 55°C (14 to 131°F)  Compliance  Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Max Switched DC:	Inductive DC-13, 2 A/24 V					
Max Drop-Out Time:         100 ms           Max Output Fuse:         4 A slow-acting fuse or 6 A quick-acting fuse           Reset Mode:         Automatic/manual           External Device Monitoring (EDM):         N/C loop between Y1 and Y2           Mechanical         N/C loop between Y1 and Y2           Mechanical         Mounting:           Case Material:         Polyamide PA6.6           Max Wire Size:         0.2 to 1.5 mm² (24 to 16 AWG)           Weight:         160 g (5.6 oz.)           Color:         Red           External Switches:         None           Indication:         Green = Power on, Green = K1 + K2 closed           Mechanical Life:         1 x 10 <sup>6</sup> operations           Environmental         Enclosure Protection:         IP20 terminals, IP40 (NEMA 1) housing           Operating Temperature:         -10 to 55°C (14 to 131°F)           Compliance         EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850           Approvals/Listings:         CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Min Switched Current/Voltage:	10 mA/17 V (provided that the contact has never been used with higher loads)					
Max Output Fuse:  Reset Mode:  Automatic/manual  External Device Monitoring (EDM):  Mechanical  Mounting:  35 mm (1.38 in.) DIN rail  Case Material:  Polyamide PA6.6  Max Wire Size:  0.2 to 1.5 mm² (24 to 16 AWG)  Weight:  Color:  Red  External Switches:  None  Indication:  Green = Power on, Green = K1 + K2 closed  Mechanical Life:  1 x 10 <sup>6</sup> operations  Environmental  Enclosure Protection:  IP20 terminals, IP40 (NEMA 1) housing  Operating Temperature:  -10 to 55°C (14 to 131°F)  Compliance  Standards:  EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings:  CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Impulse Withstand Voltage:	3000 V					
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External Device Monitoring (EDM):   N/C loop between Y1 and Y2	Max Output Fuse:	4 A slow-acting fuse or 6 A quick-acting fuse					
(EDM):           Mechanical           Mounting:         35 mm (1.38 in.) DIN rail           Case Material:         Polyamide PA6.6           Max Wire Size:         0.2 to 1.5 mm² (24 to 16 AWG)           Weight:         160 g (5.6 oz.)         210 g (7.4 oz.)           Color:         Red           External Switches:         None           Indication:         Green = Power on, Green = K1 + K2 closed           Mechanical Life:         1 x 10 <sup>6</sup> operations           Environmental         Enclosure Protection:           Operating Temperature:         -10 to 55°C (14 to 131°F)           Compliance         EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850           Approvals/Listings:         CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Reset Mode:	Automatic/manual					
Mounting:       35 mm (1.38 in.) DIN rail         Case Material:       Polyamide PA6.6         Max Wire Size:       0.2 to 1.5 mm² (24 to 16 AWG)         Weight:       160 g (5.6 oz.)       210 g (7.4 oz.)         Color:       Red         External Switches:       None         Indication:       Green = Power on, Green = K1 + K2 closed         Mechanical Life:       1 x 10 <sup>6</sup> operations         Environmental       Enclosure Protection:         IP20 terminals, IP40 (NEMA 1) housing         Operating Temperature:       -10 to 55°C (14 to 131°F)         Compliance         Standards:       EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850         Approvals/Listings:       CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland		N/C loop between Y1 and Y2					
Case Material:         Polyamide PA6.6           Max Wire Size:         0.2 to 1.5 mm² (24 to 16 AWG)           Weight:         160 g (5.6 oz.)         210 g (7.4 oz.)           Color:         Red           External Switches:         None           Indication:         Green = Power on, Green = K1 + K2 closed           Mechanical Life:         1 x 10 <sup>6</sup> operations           Environmental         Enclosure Protection:           IP20 terminals, IP40 (NEMA 1) housing           Operating Temperature:         -10 to 55°C (14 to 131°F)           Compliance           Standards:         EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850           Approvals/Listings:         CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Mechanical						
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Weight:         160 g (5.6 oz.)         210 g (7.4 oz.)           Color:         Red           External Switches:         None           Indication:         Green = Power on, Green = K1 + K2 closed           Mechanical Life:         1 x 10 ° operations           Environmental         Enclosure Protection:           IP20 terminals, IP40 (NEMA 1) housing           Operating Temperature:         -10 to 55°C (14 to 131°F)           Compliance           Standards:         EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850           Approvals/Listings:         CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Case Material:	Polyamide PA6.6					
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External Switches:  None Indication: Green = Power on, Green = K1 + K2 closed  Mechanical Life: 1 x 10° operations  Environmental  Enclosure Protection: Operating Temperature: -10 to 55°C (14 to 131°F)  Compliance  Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Weight:		160 g (5.6 oz.)	210 g (7.4 oz.)			
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Mechanical Life: 1 x 10 ° operations  Environmental  Enclosure Protection: IP20 terminals, IP40 (NEMA 1) housing Operating Temperature: -10 to 55 °C (14 to 131 °F)  Compliance  Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	External Switches:	None					
Environmental  Enclosure Protection: IP20 terminals, IP40 (NEMA 1) housing Operating Temperature: -10 to 55°C (14 to 131°F)  Compliance  Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Indication:	Green = Power on, Green = K1 + K2 closed					
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Compliance Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850 Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Enclosure Protection:	IP20 terminals, IP40 (NEMA 1) housing					
Standards: EN60947-1/5, EN61000-6, EN62061, EN ISO 12100-2, EN ISO 13849-1/2, E ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Operating Temperature:	-10 to 55°C (14 to 131°F)					
ISO 13850  Approvals/Listings: CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland	Compliance						
	Standards:	100 1000					
	Approvals/Listings:	CE-marked for all applicable standards, UL and C-UL, CSA, TÜV Rheinland					
Heliability Data	Reliability Data						
per EN ISO 13849-1: Cat. 4, PLe, PFHd 3.45E-09	per EN ISO 13849-1:	Cat. 4, PLe, PFHd 3.45E-09					

Specifications are subject to change without notice. Note: The safety contacts of the STI switches are described as normally closed (N/C)—i.e., with the guard closed, actuator in place, and the machine able to be started.





### **Application**

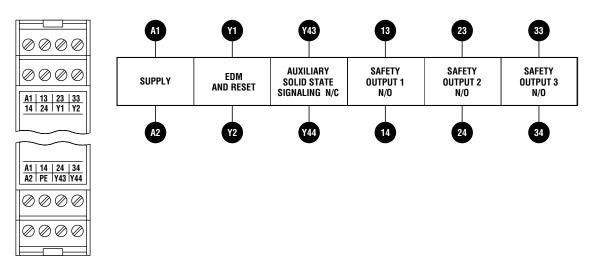


ESC: External Start Conditions

### **Output Contact Arrangements**



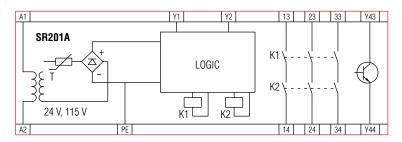
#### **Terminal Connections**



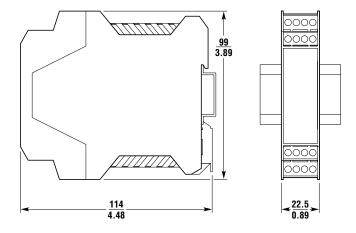




## **Block Diagram**



Dimensions (mm/in.)



# Ordering

Model	Supply	Inputs	Outputs	Auxiliary	Part No.
SR201A01	24 VAC/DC	1 N/C	3 N/O	1 Solid State	44510-2011
SR201A02	110 VAC	1 N/C	3 N/O	1 Solid State	44510-2012





## Terms and Conditions of Sale

- Offer; Acceptance. These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms. Prices: Payment Terms. All prices stated are current, subject to change without notice by Omron. Omron reserves the right to increase or decrease prices on any unshipped portions of outstanding orders. Payments for Products are due net 30 days unless otherwise stated in the invoice. Discounts. Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Omron's payment terms and (ii) Buyer has no past due amounts.

- and (ii) Buyer has no past due amounts.

  Interest. Omron, at its option, may charge Buyer 1-1/2% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the
- Orders. Omron will accept no order less than \$200 net billing.

  Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
- Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Omron or required to be collected directly or indirectly by Omron for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Omron.

  Financial. If the financial position of Buyer at any time becomes unsatisfactory
- <u>Financial</u>. If the financial position of Buyer at any time becomes unsatisfactory to Omron, Omron reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Omron may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts. unpaid accounts
- Cancellation: Etc. Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Omron against all related costs or expenses.

  10. Force Majeure. Omron shall not be liable for any delay or failure in delivery
- resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.

  11. Shipping: Delivery. Unless otherwise expressly agreed in writing by Omron:
  a. Shipments shall be by a carrier selected by Omron; Omron will not drop ship
- - except in "break down" situations.
    b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall
- constitute delivery to Buyer; c. All sales and shipments of Products shall be FOB shipping point (unless oth- c. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Omron), at which point title and risk of loss shall pass from Omron to Buyer; provided that Omron shall retain a security interest in the Products until the full purchase price is paid;
   d. Delivery and shipping dates are estimates only; and
   e. Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.

  12. Claims. Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products.
- portation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
- Warranties. (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.

  (b) <u>Limitations</u>. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABIL-

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